UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region08

APR 15 2015

Ref: 8EPR-N

Barb Sharrow, Field Manager
Bureau of Land Management
Uncompahgre Field Office
2465 South Townsend
Montrose, CO 81401

RE: EPA Comments on the Bull Mountain Unit Master Development Plan Draft EIS # 20150007

Dear Ms. Sharrow:

The U.S. Environmental Protection Agency Region 8 has reviewed the Bull Mountain Unit Master Development Plan Draft Environmental Impact Statement (Draft EIS) prepared by the Bureau of Land Management (BLM). Our comments are provided for your consideration pursuant to our responsibilities and authorities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act (CAA), 42 U.S.C. Section 7609.

Project Description

The Bull Mountain Unit Master Development Plan (MDP) describes the exploration and development of up to 146 natural gas wells, 4 water disposal wells, and associated infrastructure on federal and private mineral leases within a federally unitized area known as the Bull Mountain Unit. Federal unitization allows for placement of wells within the Unit in a logical fashion in order to minimize road development, pipelines and other surface impacts. By effectively eliminating internal property boundaries within the unit area, unitization allows for the most efficient and cost effective means of developing the underlying oil and gas resources.

This project was previously analyzed in an Environmental Assessment (EA). Subsequently, the BLM determined it was necessary to prepare an EIS due to projected air quality impacts. The BLM will decide whether to approve the Bull Mountain Unit MDP as proposed, approve the MDP with modification and mitigation, or reject the MDP. Any decisions made in the programmatic analysis would not grant the Unit operator any permit to begin well pad, road, pipeline, facility construction, or well drilling and completion. Additional applications and approvals would be required, including additional NEPA analysis, prior to the BLM making decisions on the applications. The BLM would then apply appropriate and/or more effective mitigations measures (e.g., Conditions of Approval [COAs] and best management practices [BMPs]) to permitted actions.

The alternatives evaluated include: Alternative A (No Action), Alternative B (Proposed Action) and Alternative C (Modified Action). The BLM has not identified a preferred alternative in the Draft EIS; therefore all build alternatives will be rated.

EPA's Comments and Recommendations

The EPA's comments on this Draft EIS focus on air resources, water resources, and greenhouse gas (GHG) emissions and climate change. Given that the project was analyzed in a preliminary EA, and was subsequently determined by the BLM to prepare an EIS due to projected air quality impacts, the EPA is particularly interested in the BLM's approach to ensuring protection of air quality.

1. Air Resources

Protection of Air Resources – NO_2

Several additional mitigation measures are being proposed for Alternative C to avoid possible exceedances of the NAAQS and adverse impacts to air quality related values (pages 4-59 to 4-61). To ensure that 1-hour NO_2 impacts will not exceed the NAAQS, the BLM is proposing NO_x emission limitations. To achieve this for near-field impacts, the BLM will place a Condition of Approval (COA) on each permit requiring the operator to emit 5 tons per year (TPY) or less of NO_x at each well pad for production operations, and 1 gram of NO_x per second during drilling and completion (with Tier 2 drill rigs). The additional mitigation measures listed on pages 4-59 through 4-61 to protect air quality and air quality related values are not proposed for Alternative B.

The EPA recommends the BLM consider modifying the NO_x mitigation measures in the following ways to ensure that the measures result in the BLM's intended outcome of not exceeding the 1-hour NO_2 NAAQS.

- The mitigation measure under the second bullet on page 4-60 is intended to protect the 1-hour NO_2 NAAQS during long-term production by limiting NO_x emissions based on a ton per year emission level. We recommend that the mitigation measure instead be based on an hourly, or shorter, emission rate (i.e. lb/hr) in order to assure it will be protective of the 1-hour standard.
- The mitigation measure under the third bullet on pages 4-60 and 4-61 is also intended to protect the 1-hour NO_2 NAAQS by limiting well pad combined development NO_x emissions to 1 g/s or less. However, the mechanism to meet this goal is proposed to be the use of Tier 2 engines, which may not limit well pad-wide NO_x emissions to less than 1 g NO_x/s. We note that Appendix J reports a modeled 1-hour exceedance of 281.9 micrograms per cubic meter ($\mu g/m^3$) under Scenario 1 that is associated with the drilling scenario utilizing Tier 2 drill rigs. We also note that Tier 2 engines for drill rigs, hydraulic fracturing and completion activities may not be able to achieve a combined emission rate of 1 g NO_x/s. Based on the estimated 11.9 lb NO_x/hr Tier 2 emission rate in the emission inventory, we calculate an emission rate for a single drill rig engine of 1.5 g NO_x/s. We request that the BLM ensure that the actual configurations for these activities do not exceed the 1 g NO_x/s emission rate committed to through additional mitigation measures for Alternative C.
- We recommend that the above recommended NO_x mitigation be applied to the construction phase as well, in addition to the post-construction/production phase.

The emission inventory for this project included Tier 3 compliant emissions factors for diesel construction equipment (listed at 2.8 g NO_x/hp-hr). The combined emissions from heavy diesel well pad equipment would result in an emission rate of 0.7 g NO_x/s based on assumptions in the emissions

inventory, which is below the 1 g NO_x/s emission rate committed to through additional mitigation measures for Alternative C during well development. Because the emissions inventory assumes the use of Tier 3 equipment and the resulting emission rate approaches the BLM's target rate, we recommend requiring the use of Tier 3 construction equipment to meet the 1 g NO_x/s limit for combined well pad emissions. Tier 3 diesel equipment may provide cobenefits of reducing actual emissions of other pollutants, including hydrocarbons and hazardous air pollutants (HAPs).

We note that the additional mitigation measures provided for Alternative C are not provided for Alternative B. This difference was factored into the rating for Alternative B.

Hazardous Air Pollutants

The Draft EIS includes modeling to estimate the risk of cancer due to the project's HAP emissions for both the Most Likely Exposed (MLE) and Maximally Exposed Individual (MEI). The Draft EIS projects cancer risk exceeding the one-in-one million threshold for both the MLE population and the MEI, ranging from approximately 5-in-one million to 37-in-one million, respectively. In order to avoid exposures to HAP emissions, we recommend the BLM identify and require a buffer distance from residences sufficient to reduce the risk of cancer to the MEI to below one-in-one million. This is of particular importance because the air quality analysis does not assess cancer risk from all potential airborne carcinogens associated with the Bull Mountain development.

The Colorado Air Resources Protection Protocol

Based on the Colorado Air Resource Management Modeling Study (CARMMS), the cumulative impact analysis shows that development will increase ozone concentrations in areas of western Colorado and at Class I and Sensitive Class II areas. Considering the uncertainty of the predicted ozone impacts, the BLM's Comprehensive Air Resources Protection Protocol (CARPP) will be a useful and important tool to ensure that cumulative impacts resulting from BLM oil and gas activities are minimized. We request that a discussion of the CARPP and its relation to this project be added to the Final EIS appendices.

Air Quality Modeling

During the stakeholder process held under the "Memorandum of Understanding (MOU) Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions through the National Environmental Policy Act Process," the EPA provided comments and recommendations on the methodology used for air quality modeling on this project. Due to some of our recommendations on the modeling methodology not being incorporated, it is difficult for us to determine the level of certainty in the predicted impacts. Therefore, we are supportive of the protective approach that results from the application of the additional mitigation measures proposed by BLM for this project.

2. *Water Resources*

CDPHE 303(d) Impaired Waters List

The 2014 WRNF Draft ROD/Final EIS references the 2010 CDPHE 303(d) Impaired Waters List. The EPA asks that the BLM reference and base analysis on the latest available information, which would be the 2012 CDPHE 303(d) Impaired Waters List. It appears that some new waterbody segments within the

analysis area are either on the 2012 Monitoring & Evaluation List or are on the 303(d) list. Additionally, EPA requests that BLM list out the specific waterbody segments using CDPHE's unique ID numbers, which will easily cross-reference the CDPHE 2012 303(d) list. If the 2012 list identifies impaired waters not identified by the 2010 list, we recommend a minimum of a 750-foot no surface occupancy (NSO) setback for those impaired stream segments.

Setbacks to Protect Water Resources

The Draft EIS describes (page 2-53) that a 500-foot development setback requirement from waterways and riparian areas was considered during alternatives development. The BLM revised the setback requirement to 300 feet (for both Alternatives B and C) because the wider setback pushed development higher onto side-slopes and ridges thereby increasing the erosion potential. In addition, the 500-foot setback required an additional 5.6 miles of access roads and an additional 8.3 acres of long-term surface disturbance. While the 300-foot setback is less protective of surface water resources than our recommended setback (500-foot setback for flowing waters, lakes, ponds and reservoirs, wetland and riparian areas, springs and 100-year floodplains), we support the rationale to minimize the additional erosion and sedimentation that may result from its implementation. It is unclear whether this 300-foot setback will be included in the Final EIS and ROD as a design feature. Therefore we recommend both the Final EIS and ROD include it as a design feature in both *Table 2-13 Summary of Environmental Consequences by Alternative* as well as in *Appendix C – Best Management Practices and Conditions of Approval*. In addition we also recommend that a 100-foot setback from slopes over 30% also be included in the Final EIS and ROD to protect surface waters by minimizing erosion, as well as increasing reclamation potential of disturbed areas.

Wetlands and Riparian Zones

In Section 3.2.6, Wetlands and Riparian Zones (p. 3-55), the text refers specifically to jurisdictional wetlands. *Executive Order 11990 – Protection of Wetlands* directs federal agencies to avoid to the extent possible long and short term adverse impacts to all wetlands. We recommend removing the reference to jurisdictional wetlands and discussing all wetlands present within the project area.

3. Greenhouse Gas Emissions and Climate Change

We appreciate the summary discussion of climate change in the Draft EIS Chapter 3, as well as the inclusion of the GHG inventories for each of the alternatives in Chapter 4. We recommend that the Final EIS analyze GHG emissions and climate change consistent with the Council on Environmental Quality's (CEQ) December 2014 Revised Draft Guidance for Federal Agencies' Consideration of GHG Emissions and Climate Change. Therefore, we suggest the following approach to augment the work already completed on the analysis of GHG emissions and climate change in the Final EIS:

- In the summary discussion of climate change and ongoing and reasonably foreseeable climate change impacts relevant to the project, incorporate information based on U.S. Global Change Research Program[1] assessments to assist with identification of potential project impacts that may be exacerbated by climate change and to inform consideration of measures to adapt to climate change impacts. The Draft EIS currently references the Intergovernmental Panel on Climate

[1] http://www.globalchange.gov/

Change (2007). Incorporation of current information from the U.S. Global Change Research Program will add valuable information to the Final EIS.

- We recommend that you do not compare the GHG emissions to total U.S. emissions, as this approach does not provide meaningful information for a project level analysis. Consider providing a frame of reference, such as an applicable Federal, state, tribal or local goal for GHG emission reductions, and discuss whether the emissions levels are consistent with such goals.
- Utilize the estimated GHG emissions as a reasonable proxy for climate change impacts when comparing the proposal and alternatives. In disclosing the potential impacts of the proposal and alternatives, consideration should be given to whether and to what extent the impacts may be exacerbated by expected climate change in the action area, as discussed in the "affected environment" section.
- Assess and identify measures to reduce GHG emissions associated with the project, including reasonable alternatives or other practicable mitigation opportunities, and disclose the estimated GHG reductions associated with such measures. Such measures could include consideration of renewable energy resources to address energy needs for compressor stations and other facilities. The Final EIS alternatives analysis should, as appropriate, consider practicable changes to the proposal to make it more resilient to anticipated climate change. The EPA further recommends that the Final EIS and ROD commit to implementation of reasonable mitigation measures that would reduce or eliminate project-related GHG emissions.

The EPA's Rating

In accordance with our responsibilities under the CAA Section 309, it is the EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. Since a preferred alternative was not identified in the Draft EIS, we are required to rate all action alternatives. The EPA is rating Alternative C as "Environmental Concerns – Insufficient Information" (EC-2). The "EC" rating means that the EPA's review of the Draft EIS has identified potential impacts that should be avoided in order to fully protect the environment. The "2" rating indicates that the EPA has identified additional information, data, analyses, alternatives or discussion that should be included in the Final EIS. The EPA is rating Alterative B as "Environmental Objections – Insufficient Information" (EO-2). The "EO" rating means the EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Specifically, this rating is due to the lack of air quality mitigation commitments (included in Alternative C but not in Alternative B) to avoid possible exceedances of the NAAQS and adverse impacts to air quality related values.

Thank you for the opportunity to provide comments on the Draft EIS. If you have any questions regarding our comments or these ratings, please call me at 303-312-6704, or your staff may call David Fronczak at 303-312-6096.

Sincerely,

Philip S. Strobel
Acting Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new, reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.